

Patent Claims

1. Process for the manufacture of chlorotris(triphenylphosphine)-rhodium(I) by means of causing a reaction of RhCl_3 solution with triphenylphosphine, subsequently cooling down and filtering the crystalline precipitate obtained characterized in that the mixture of the reactants is treated in such a way that
 - A** is heated up to about 30°C in an initial stage,
 - B** is heated up from 30 to about 75°C in a second stage,
 - C** is maintained at 80 to 110°C .

2. Process for the manufacture of chlorotris(triphenylphosphine)-rhodium(I) by means of causing a reaction of RhCl_3 solution with triphenylphosphine, subsequently cooling down and filtering the crystalline precipitate obtained characterized in that a 30 to 40°C warm mixture of reactants is treated in such a way that
 - B** is heated up from about 30°C to 40°C to about 75°C ,
 - C** is maintained at 80 to 110°C .

3. Process for the manufacture of chlorotris(triphenylphosphine)-rhodium(I) characterized in that
 - a solution of RhCl_3 is manufactured in water or an RhCl_3 solution is prepared from a recycling process,
 - a solution, if necessary under cooling with a $\text{C}_2\text{-C}_5$ alcohol, is combined with alcohol,
 - triphenylphosphine, if necessary under cooling, is added in excess.
 - A** in an initial stage the suspension obtained is heated up from about 5 to 20 to about 30°C ,
 - B** further in a second stage heated up from about 30 to about 75°C ,
 - C** is maintained at 80 to 110°C .
 - the solution obtained is cooled down,
 - the crystals precipitated out are filtered, washed and subsequently dried.

4. Process for the manufacture of tris(triphenylphosphin)-rhodium(I) chlorotris(triphenylphosphine)-rhodium(I) characterized in that
- a solution of RhCl_3 is manufactured in water or an RhCl_3 solution is prepared from a recycling process,
 - isopropanol is produced under a protective inert gas,
 - the RhCl_3 solution is added
 - triphenylphosphin is added in excess as an alcoholic solution or suspension
- A** the mixture obtained is heated up from about 20 to about 30°C in an initial stage,
- B** further in a second stage is heated up from about 30 to about 75°C,
- C** is boiled under reflux at 80 to 110°C.
- the solution obtained is cooled down,
 - the crystals precipitated out are filtered, washed with alcohol and/or water and/or petroleum ether and subsequently dried.
5. Process pursuant to Claims 1 to 4 characterized in that the stages last: **A**, about ½ to 1 h; **B**, 1 to 4 h and **C**, about ½ to 1 h.